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n a transverse bar, limiting the motion of the handle end of the lever in an upward direction.

Figs. 2 and 3, *o o* two upright bars between which the handle end of the lever moves, and which therefore prevent it from swerving laterally.

V.—IMPROVED LOG-SHIP.

The LARGE SILVER MEDAL *was this Session given to Mr.* JAMES HOOKEY, *Midshipman, for his* IMPROVED LOG-SHIP, *a Model of which has been placed in the Society's Repository.*

SIR;

I SHALL feel particularly obliged by your laying before the Society of Arts, &c. a log-ship invented by my son, James Hookey, Admiralty midshipman on board his Majesty's ship Barham, recently sailed for the West Indies, with an improvement in the log and lead lines.

The advantages gained by this invention are, that it gives the distance the ship runs more correctly, as it remains more stationary in the water than the one now in use; and when required to be hauled into the ship, by giving it a sudden jerk, the toggle swivels round, and disengages the line from the spring, in consequence of which, the log-ship reverses its position, and may then be pulled into the ship with the greatest ease.

With respect to the lines, he recommends that they be saturated in a composition of oil, which makes them more buoyant and pliable, and prevents kinking; it likewise prevents their contracting, which in new line is about twenty feet in fifty fathoms.

As many serious accidents are likely to occur by getting a false depth of water, in consequence of the contraction of the line attached to the lead, it becomes an object worthy of attention to prevent the possibility of such accidents taking place.

I am, Sir,
&c. &c. &c.
W. **Hookey.**

A. Aikin, Esq.
Secretary, &c. &c.

CERTIFICATES.

(Copy.)

Honourable Sirs; Deptford Yard, January 17, 1827.

Agreeably to the directions in your letter of the 15th instant, to give my opinion on the model of a log-ship invented by Mr. James Hookey, mate of His Majesty's ship Prince Regent, I have this day tried it in the river, by rowing a boat against the tide, and am of opinion, it is in every respect the most complete invention for a log-ship I have ever seen, and trips with the greatest ease, either with a long or a short length of line being veered out. And I would humbly beg to recommend that models of it be made at this yard, to be sent to all the other yards, to be supplied to all ships and vessels when commissioned, as in the event of one being carried away, the carpenters of the ships might make them, so as always to have a spare one.

Honourable Navy Board. J. **Douglas.**

These are to certify that I tried a log-ship, invented by Mr. James Hookey, Admiralty midshipman, on board the Supply, naval transport, during a voyage from the river Thames to Leith and back, and found it answer extremely well; it gave the distance very correctly, by remaining more stationary than the old log, and when required to be pulled back to the ship, it disengaged itself with the greatest ease. I therefore recommend it to be used in preference to the old log, as I consider it very far superior.

Given under my hand, on board the Supply, naval transport, at Deptford, this 1st day of February, 1827. } H. I. K. WALKER, *Master.*

Instructions for using the Log-ship invented by Mr. James Hookey, of the Royal Navy.

Deptford Yard, February 16, 1827.

The eye in the line is to be put over the toggle, on the tail of the fish, and when the line is all run out from the reel, and it becomes taught, by giving it a sudden jerk, the toggle will swivel round; the fish will then reverse its position, float on the surface of the water, and may be hauled into the ship with the greatest ease. When it is necessary to shift the line at the head of the fish, knock out the peg that forms the eye, and the line will then disengage itself; and in attaching another line, make an eye in it, and pass it into the mouth of the fish perpendicularly, through which put the peg that forms the eye, and it will be quite secure.

The inventor strongly recommends that all log-lines and lines to the lead should be saturated for one hour in linseed and lamp oil, three-fourths of the former, and one-fourth of the latter, well mixed together; after which, hang them up to dry; contraction will thereby be prevented, which in all new lines is twenty feet in fifty fathoms; besides, by thus saturating them in oil before they are used, they become more buoyant and pliable, and are prevented from kinking.

N. B.—The spring to the toggle may be fixed either on the upper or the lower side of the fish.

Reference to the Engraving.—Plate VI.

The log is formed like a fish. Fig. 7 represents one running out, and fig. 8 the same in the act of being pulled in; *r* the toggle, *s* the spring; the eye of the line is put on the toggle, which is then pushed under the spring; the flap-board *t* falls down, and the fish runs out. When the line is taught, a sudden jerk will make the toggle pass the spring, and let go the line; the fish then swings round, the flap-board *t* closes, and it is easily pulled in.

Fig. 9 shows the under side; the flap-board *t* is jointed to the fish by the strap of copper *v*, which passes round a pin *uu*, and this pin is held by the copper-strap *w*; the line is attached to the log by a loop which goes in at the mouth, and is held by a peg which forms the eye; the flap-board *t*, if made of copper, has a piece of wood rivetted to it in the middle to stiffen it; if made of wood, a slip of lead or copper *x* is rivetted on, to make it heavy enough to drop down readily when thrown in the water.

Fig. 10. A top view of one made thin and wide like a flat-fish; the spring *s*, which holds the toggle, is underneath, between the fish and the flap-board *t*; the spring may be above or below in either case.